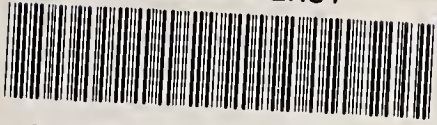


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HELP FOR MASSACHUSETTS HOMEOWNERS:

Sources of Financing for Septic System Improvements



GOVERNMENT DOCUMENTS
COLLECTION

MAY 15 1995

University of Massachusetts
Depositary Copy,

If your home is older or not accessible to a municipal sewer line — even if your house is relatively new and you simply wonder how recent revisions to Title 5 of the State Environmental Code could affect you down the road — you may be concerned about your ability to pay for repairs or a replacement should your cesspool or septic system ever fail.

Excavation, design and construction can be very expensive. But chances are good that you will be able to take advantage of a growing number of convenient and comparatively low-cost financing options, several of which are discussed in this brochure.

The Betterment Law

Under a new state law, every town and city in Massachusetts has the option of providing upfront financing of residential cesspool or septic system repairs or replacements in much the same way many communities currently undertake public works improvements such as the paving of roads and the laying of water and sewer lines.

The so-called Betterment Law allows the municipality to create a revolving loan fund (which must be authorized by town meeting or the city council), to pay for cesspool or septic system repairs or installations directly from the fund, then to recover the associated costs by assessing annual betterments on the property tax bills of the homeowners who benefit.

Should you seek this form of financing, you will have to sign an agreement with the local board of health which outlines the type of work to be done, the reason it is necessary, the respective roles of both you and health board, and the terms of repayment. You can be given up to 20 years to reimburse the town or city for its costs, plus interest. Betterment assessments will begin appearing on your property tax bill after the cesspool or septic system upgrade has been completed.

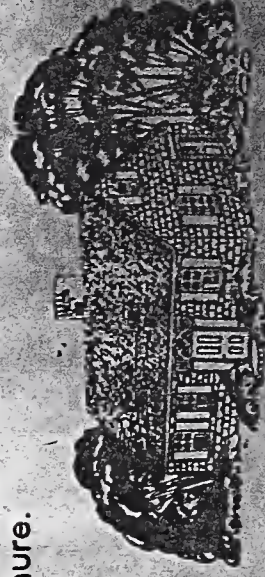
Whether a municipality offers betterment financing is strictly a local decision that can be affected by budget, staffing or other considerations. To find out if your community may be planning or

already offers such a program, contact your board of health, town or city administrator, or state legislator.

State "Seed" Money for Municipal Loan Programs

Late last year, the Legislature authorized creation of a \$10 million fund to assist low- and moderate-income homeowners faced with the prospect of cesspool or septic system repair or replacement. The

Department of Environmental Protection is working with other state agencies to determine the most efficient way to distribute these funds.



It is expected that grants will be given to provide interested towns and cities with some of the "seed" money they will need to establish revolving loan programs under the Betterment Law. Your board of health will be given details as soon as they are available.

Other Financing Programs

If you meet certain criteria, cesspool or septic system upgrade financing may also be available to you through the federal Farmers Home Administration (FHA), the Massachusetts Housing Finance Agency (MHFA) and/or a private lending institution.

To learn more about available FHA financing and eligibility criteria, contact the local FHA county office (listings can be found in your phone directory) or write:

Farmers Home Administration
U.S. Department of Agriculture
Washington, DC 20250

For information about MHFA financing, call or write:
Massachusetts Housing Finance Agency
50 Milk Street
Boston, MA 02109
(617) 451-3480

Your banker is the best source of information about financing that may be available through private lending institutions in your area.



Commonwealth of Massachusetts
Executive Office of Environmental Affairs

Department of Environmental Protection

William F. Weld
Governor

Trudy Coxe
Secretary, EOE

Thomas B. Powers
Acting Commissioner

Dear Citizen:

After many months of discussion and hard work, the efforts of bankers, developers, engineers, environmental advocates, municipal officials and real estate professionals are about to pay off as the Commonwealth of Massachusetts embarks on a new approach to the design and maintenance of subsurface sewage disposal systems.

Revisions to Title 5 of the State Environmental Code will take effect on March 31, 1995. Because these changes are of critical interest to so many people, we have compiled several fact sheets and summaries, enclosed with this letter, to assist you in understanding the new rules. These include:

- septic system fact sheet.
- two page summary of the changes.
- five page executive summary.
- answers to frequently asked questions.
- a listing of DEP's regional offices
- a brochure describing financing options

We see the upcoming changes as positive and meaningful steps toward better protection for both consumers and our state's water resources.

DEP is currently in the process of providing training for municipal officials, soil evaluators, real estate agents, bankers and others who will be involved in implementing these new rules. If you have questions after reviewing these documents, you should feel free to contact your local Board of Health, your regional DEP office, or DEP's Division of Water Pollution Control in Boston at 617-292-5673.

Sincerely,

Tom Powers
Thomas B. Powers
Acting Commissioner

enclosure.



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The Importance of New Clean Water Rules

- About one quarter of all homes in Massachusetts have cesspools or septic systems.
- 83 communities in the state have themselves identified some \$400 million worth of sewer construction needs to correct problems with failing cesspools and septic systems.
- Failed cesspools and septic systems are among the major culprits responsible for the fact that forty percent of our lakes and streams and 60 percent of our major harbors and bays aren't clean enough for fishing and swimming.
- Too much phosphorous from these systems is contributing to the weed-choked death of many of our lakes and ponds. In coastal waters, excess nitrogen is the culprit, leading to algae and seaweed blooms that deprive fish and shellfish of oxygen.
- High levels of nitrogen in drinking water can be toxic to babies. Even after treatment in a conventional septic system, household sewage may still contain up to four times the level of nitrogen that's considered safe for drinking water. That's why systems need to be sited carefully so that there are not too many septic systems in the recharge areas of wells, nor are they located too close to drinking water supplies.
- An estimated 90,000 acres of shellfish beds are permanently closed in Massachusetts because of pollution, much of it the result of septic system contamination.

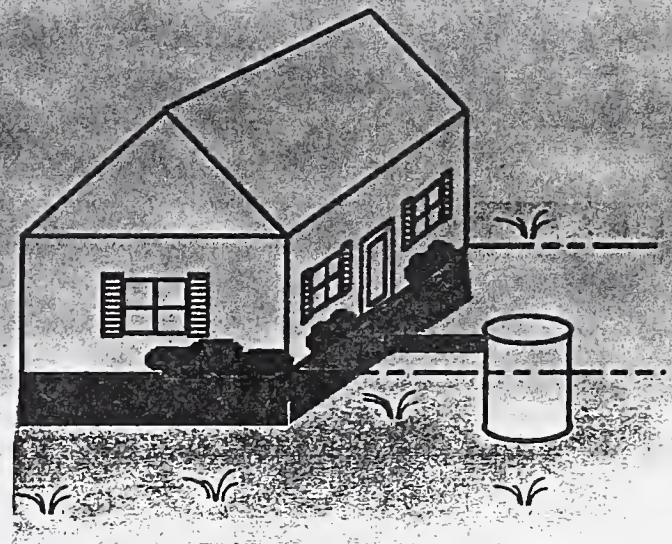
Cesspools

The Problems:

Single component pits do not allow the proper detention of solids nor for the proper distribution of effluent.

Effluent overloads the capacity of the soil to remove harmful bacteria and viruses, to remove phosphorous, and to convert ammonia to less harmful forms of nitrogen.

More prone to surface breakout or backing up through the plumbing.



Septic Systems

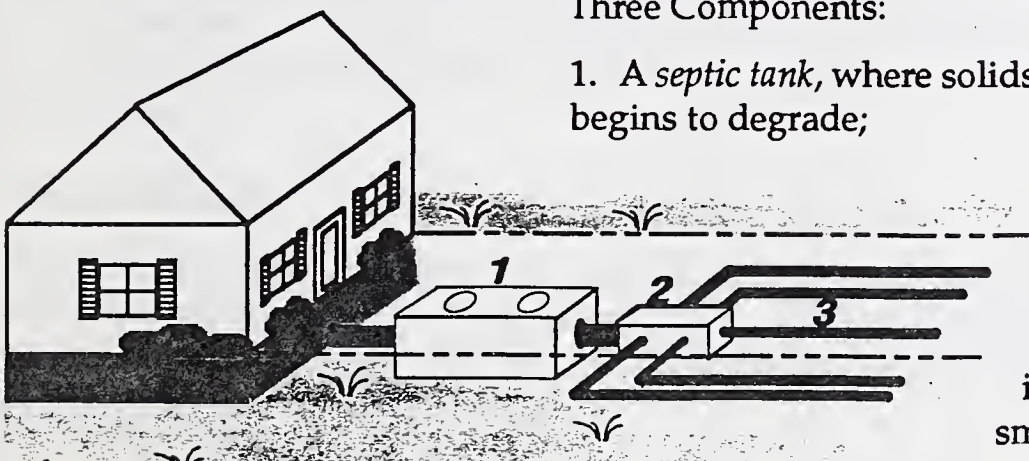
With proper design, construction and maintenance, can last indefinitely.

Three Components:

1. A *septic tank*, where solids can settle and both the solids and effluent begins to degrade;

2.. *distribution box*, which prevents effluent from overloading the soil; and

3. a *soil absorption system (leach field)*, which further treats the effluent by partially removing harmful bacteria, viruses, phosphorous, and small amounts nitrogen.



The new Clean Water Rules contain detailed specifications and standards for septic systems that will improve treatment of human sewage. The new rules also allow for alternative technologies that improve or modify traditional septic system designs.

Examples of pollution from failing cesspools and septic systems are abundant:

Essex Bay

More than 160 acres of shellfish beds in the Essex, Castle Neck and Walker Rivers are permanently closed because of pollution. And the main source of the contamination, repeatedly documented in three separate studies over the last 20 years, is major, town-wide problems with improper sewage disposal or failing systems in the town of Essex, discharging contamination into the bay. Hundreds more acres are threatened in this shellfish rich area.

Kingston Bay

Most of Kingston Bay is closed to shellfishing because of contamination traced to failing septic systems. A survey conducted just last year found fecal coliform levels as high as 100,000, and determined that many of the septic systems along the Duxbury shore are failing or stressed.

Webster Lake, Webster

Two-thirds of the 600 lake-front septic systems on Webster Lake, a popular recreation area south of Worcester, are inadequate; about a quarter of them are cesspools. The lake is becoming increasingly choked with plant growth because of the discharge of phosphorous from these inadequate systems.

Metacomet and Arcadia Lakes, Belchertown

A 1985 study determined that on-site disposal systems were the major source of phosphorous getting into both these lakes, causing excessive plant growth that is interfering with the use of the lake. That study found that at least 16 percent of lakefront properties were still using cesspools. Sixty percent of the houses around the lakes were originally built as summer homes, but nearly half of those are now occupied year-round, in many cases straining the capacity of on-site systems.

Wachusett Reservoir

Failing septic systems and cesspools pose a threat to the Wachusett Reservoir, which supplies one-third of the water needs of the MWRA system. For example, regular monitoring of Gates Brook by the MDC has shown coliform bacteria counts to be excessive more than half the time. And because of algae growth caused by nutrients, in large part from failing septic systems, the MWRA treats the reservoir regularly with copper sulfate. If we can't prevent this pollution, then the MWRA—and eastern Massachusetts ratepayers—may have to spend hundreds of millions of dollars to construct a drinking water filtration plant. And local residents will continue to face the public health risks posed by raw sewage discharges from failed systems.

Cherry Valley Sewer District, Leicester

The town's Board of Health says some homes may have to be condemned because the problems caused by failed sewage systems are so bad. In some places along Route 9, raw sewage has discharged onto the highway, and Department of Public Works crews have refused to work along those sections of the road. Construction of a 14 million dollar sewer system has been proposed to correct the problems, at an estimated cost of \$689 per household.

Buzzards Bay

Excessive discharges of nitrogen in coastal embayments cause "eutrophication," or greatly increased growth of seaweeds and macroalgae. This growth blocks sunlight and takes up much of the oxygen in the water, killing many species of fish and shellfish. In Buzzard's Bay alone, 10 embayments are currently threatened by nitrogen pollution from human sewage.



Commonwealth of Massachusetts
Executive Office of Environmental Affairs

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SUMMARY OF MAJOR REVISIONS TO CLEAN WATER RULES (TITLE 5), SEPTEMBER, 1994

INNOVATIVE/ALTERNATIVE SYSTEMS

1978 Code: specific DEP approval of every alternative on a lot-by-lot basis, no defined process

Revised Code: New, streamlined system leading to general approval of alternatives takes effect November 10, 1994. Recirculating sand filters and humus/composting toilets certified as of that date. DEP to certify additional alternatives before April, 1995, and to publish information about approved and pending alternatives.

INSPECTION OF EXISTING SYSTEMS

1978 Code: does not address inspections, but requires pumping annually. This provision widely ignored.

Revised Code: requires inspections only at time of property transfer, change of use, or expansion. Sets performance standard for pumping, suggests pumping at least every three years. Provides guidelines for how inspections should be done.

DEFINITION OF FAILED SYSTEM

1978 Code: a system suffering breakout or backup, or any system deemed to be posing a public health threat

Revised Code: systems exhibiting obvious hydraulic failures (breakout or backup); systems located within Zone I of public water supply wells, within 100 feet of public water supply reservoirs or their tributaries, or within 50 feet of surface water bodies; cesspools without at least a half-day capacity; systems found to be a specific health or environmental threat

STANDARD OF UPGRADE

1978 Code: requires substandard systems to be upgraded to meet the full requirements of the code, or to get a variance from both the Board of Health and DEP

Revised Code: where no expansion or change of use is proposed, the standard, with local Board of Health approval, is "maximum feasible upgrade." No DEP review would be needed unless the system could not meet requirements for groundwater separation or drinking water supply setbacks, or construction of a basic 3-part system.

ENVIRONMENTALLY SENSITIVE AREAS

A. SETBACKS

1978 Code: 100 foot required setback from water supply reservoirs and their tributaries, 50 feet from other surface waters

Revised Code: required setbacks for new construction are 400 feet from reservoirs, 200 feet from their tributaries, 100 feet from wetlands bordering these tributaries, 100 feet from vernal pools already certified at time of application (50 feet if system is downgradient from pool), and 50 feet from other surface waters

B. NITRATE LOADING (EXCESSIVE DISCHARGE OF NUTRIENTS)

1978 Code: does not address this issue

Revised Code: within recharge areas of public wells, or where private wells and septic systems are both used, new residential development using conventional septic systems would require an acre of land for a four bedroom home. A larger home or a smaller lot would be allowed if an alternative system that removes nitrate is used, or on the basis of a plan that averages nitrate loadings across a project or community. Nitrate loadings from commercial activities are similarly limited in public well recharge areas. DEP is to study nitrate loadings from commercial facilities, before extending the limitations to private well areas.

GRANDFATHERING EXISTING LOTS

1978 Code: not addressed

Revised Code: if an individual lot were buildable under the 1978 code, but could not fully comply with the new rules, the same flow, up to a three-bedroom house, would be allowed if the disposal system application is filed within 5 years and the system built within 8 years. A larger house may be allowed with a higher level of treatment

LARGE SYSTEMS (10,000-15,000 gallons per day)

1978 Code: local Board of Health approves conventional systems up to 15,000 gallons per day

Revised Code: a) recirculating sand filter or equivalent alternative systems required for new systems over 2,000 gpd that are located in well recharge areas
b) treatment plant required for new systems or expansions over 10,000 gpd;
c) existing systems over 10,000 gpd must be inspected within 2 years. Those located within Zone IIs of public wells, within 400 feet of reservoirs or 200 feet of their tributaries, must upgrade to treatment plant within 5-7 years unless the owner demonstrates that drinking water standards are being met.

COMMONLY ASKED QUESTIONS AND ANSWERS ABOUT THE NEW TITLE 5

Q. When do the new rules go into effect?

A. The section of the rules dealing with approval of alternative technologies went into effect on November 10, 1994. All other provisions will take effect March 31, 1995, except for those dealing with soil evaluators, which will become effective July 1, 1995.

Q. Who regulates cesspools and septic systems?

A. Local Boards of Health and health agents are the primary regulatory authorities. However, DEP will be involved in a limited number of approvals (for instance, alternative technologies or shared systems), some variance requests, and appeals. In addition, DEP is responsible for overseeing the performance of the local authorities, as well as providing those bodies with training and technical assistance.

Q. What is the difference between a cesspool and a septic system?

A. A cesspool generally consists of a pipe running from the house emptying into a single component pit. This arrangement does not allow proper detention of solids or proper distribution of effluent. As a result, effluents overload the capacity of the soil to remove harmful bacteria and viruses, to remove phosphorous, and to convert ammonia. A septic system is made up of three components: a septic tank, where solids can settle and both the solids and effluents begin to degrade; a distribution box, which prevents effluent from overloading the soil; and a soil absorption system, which further treats the effluent by removing harmful bacteria, viruses, phosphorous, and nitrogen.

Q. Do the new rules require every cesspool to be replaced?

A. No. Generally, only those cesspools that exhibit signs of hydraulic failure, are located extremely close to water resources, or are determined by the Board of Health to be a public health threat, will have to be upgraded.

Q. Do the new rules require my system to be inspected?

A. The new rules require that your system be inspected only at time of transfer (sale), change of use (which results in an increased sewage flow), or expansion.

Q. What constitutes a system inspection and who conducts it?

A. Registered engineers, registered sanitarians, health officers, board of health members or agents, home inspectors, septage haulers, system installers, and others may conduct the inspection. DEP is developing a training course to certify prospective inspectors and is drafting an inspection protocol for carrying out the inspections. The extent of an individual inspection will depend upon a number of variables, including the type of system (i.e. cesspool

vs. septic system), age of the system, availability of as-built drawings, and local soil conditions. Cesspools, septic tanks and distribution boxes will have to be uncovered and examined, but DEP does not expect widespread excavation to be needed in most cases.

Q. How do I have my system inspected if I'm selling the house in the middle of the winter?

A. The regulations allow an inspection to be conducted anytime in the nine months before the sale, or six months after the sale if the transaction occurs during adverse weather conditions.

Q. What is maximum feasible compliance?

A. The concept of maximum feasible compliance (MFC) is "do the best you can with what you've got." That is, where possible, systems must be constructed or upgraded in full compliance with the rules. But if this is not possible, the local board of health will be authorized on a case-by-case basis, to approve construction which brings the system as close to full compliance as possible. No DEP review would be needed except in cases where the system is unable to meet basic requirements for groundwater separation or drinking water supply setbacks, or construction of a basic 3-part system.

Q. What happens if I can't meet those basic requirements?

A. If you can't meet the basic requirements for setbacks from water resources or construction of a 3-part system, you'll have to apply to the local board of health and to DEP for a variance.

The new rules provide a number of options. For example, the use of alternative technologies which remove greater amounts of nitrogen than conventional systems may be a solution. A group of residents may also install a shared system. Other options may also be available and will be considered on a case-by-case basis.

Q. What alternative technologies are available?

A. Under the new regulations, recirculating sand filters are approved for general use and composting/humus toilets are approved for use in upgrade situations. In addition, the new code establishes a comprehensive and systematic approach to analyzing other alternative technologies, based on the level of scientific information available. By March 31, 1995, at least two additional alternative technologies must be approved for general use.

Q. If I own a vacant lot, can I build on it under the new regulations?

A. If an individual lot were buildable under the 1978 rules but could not fully comply with the new rules, you could build up to a three bedroom house as long as the application is filed by March 31, 2000 and the system is built by 2003. A larger house may be allowed if a higher level of treatment (e.g. sand filter) is provided.

Q. Why can't I put my leaching field underneath the driveway?

A. Impervious areas such as driveways or parking lots restrict air passing through the soils. This causes anaerobic conditions, which in turn clog the soil absorption system (leaching field) and cause it to fail.

Q. What happens to existing local rules when the new state regulations take effect?

A. Local rules are adopted under independent legal authority. Existing local rules that conflict with or are less stringent than the new code will no longer be in effect. Local rules which are more stringent than the new code will remain in effect, but boards of health are urged to review them and determine whether they are still appropriate.

Q. What kind of financial assistance is available to help homeowners repair or upgrade their systems?

A. Last August, the legislature created a \$10 million loan program to assist low and moderate income homeowners in repairing or upgrading their systems. DEP is currently working with the Executive Office of Communities and Development to develop a program to make the financing available to communities. More information will be available shortly.

The federal Farmers Home Administration (FHA), the Massachusetts Housing Finance Agency (MHFA) and some private lending institutions offer financing to qualified individuals. For information regarding the federal programs contact your local FHA county office as listed in the phone directory or write:

Farmers Home Administration
U.S. Department of Agriculture
Washington, D.C. 20250

For information regarding the MHFA programs contact:

Massachusetts Housing Finance Agency
50 Milk Street
Boston, MA 02109
(617) 451-3480

Finally, cities and towns may adopt the provisions of the so-called betterment bill, which allows communities to finance system upgrades and recover the costs over time by assessing a betterment on the property owner. You should contact your local city or town officials to determine whether such a program is offered in your community.

THIS DOCUMENT IS INTENDED FOR INFORMAL, INFORMATIONAL PURPOSES ONLY. IN THE EVENT OF ANY CONFLICT OR DISCREPANCY BETWEEN THE INFORMATION CONTAINED HEREIN AND ANY REGULATION OR LAW INCLUDING, BUT NOT LIMITED TO, 319 CMR 15.000, TITLE 5, THE REGULATION SHALL PREVAIL.

NEW CLEAN WATER RULES (TITLE 5)
SUMMARY OF MAJOR PROVISIONS
310 CMR 15.000

This summary highlights major provisions of the revised Title 5 of the Massachusetts Environmental Code, 310 CMR 15.000. The new rules amend existing requirements for design, construction, and operation of on-site subsurface sewage disposal systems and for the transportation and disposal of septage, which were established in 1978 (called the "1978 Code" in this summary). The new rules are organized in several parts; this summary outlines the most significant issues that are addressed in each part and identifies the major changes from the existing rules.

SUBPART A: General Provisions

This Subpart contains definitions, applicability rules, permitting and enforcement procedures, and provisions for on-going review of the regulations and program. Among the significant issues addressed in this subpart are:

Applicability. The bulk of the new rules will take effect on March 31, 1995. The provisions regarding alternative systems took effect on November 10, 1994 and the soil evaluation requirements will take effect on July 1, 1995. The largest system that can be permitted under the new rules would have a design flow under 10,000 gallons per day (gpd); under the 1978 Code, design flows under 15,000 gpd were permitted. Larger systems require ground water discharge permits under other regulations. See section 15.004.

Grandfathering of existing lots. Applications filed before the effective date are subject to the 1978 Code, except for some large systems described below. After that date, if an individual lot is buildable under the 1978 Code, but could not fully comply with the new rules, the same amount of sewage flow, up to the equivalent of a three-bedroom house, would be allowed if the disposal system permit application is filed within 5 years and the system built within 8 years. The system must be built in compliance with the new rules to the maximum extent feasible. A larger house may be allowed with a higher level of treatment. By state law, lots within subdivisions may proceed under the 1978 Code for three years after the subdivision plan is approved.

Pending applications for systems over 10,000 gpd that would be located within the zone of contribution of public water supply wells, within 400 feet of surface water reservoirs, or within 200 feet of tributaries to surface water reservoirs, would be subject to the new rules. Systems over 10,000 gpd in these areas that are already permitted may be required to upgrade as described in subpart D. See sections 15.005 and 15.006.

Local requirements. The new rules represent a standard code for septic system regulation. Local governments have separate legal authority to adopt more stringent regulations under chapter 111 section 31 of the General Laws. See Section 15.003.

Soil evaluators. The new rules contain modified design standards based on different soil types (described in Subpart C). Consequently, the new rules require that an approved soil evaluator be present on the site when soil conditions and groundwater elevations are determined. The soil evaluator may be either a representative of the Board of Health, or may be hired by the applicant. Registered engineers and sanitarians, health officers, and Board of Health members or agents may become approved soil evaluators by passing an examination demonstrating their knowledge of these issues, either after a DEP-administered training course or without it. See sections 15.017 and 15.018.

Permitting and enforcement procedures. The new rules attempt to bring greater clarity and consistency to permitting and enforcement provisions, most of which are carried without substantial change from the 1978 Code. Septic

system additives or soil conditioners would require approval by the Department. In addition, the new rules add a prohibition on installing a well within 100 feet of a system, mirroring the 1978 Code rule which prohibits septic systems within 100 feet of a well. See sections 15.019 through 15.030.

On-going review and future revisions of regulations. The new rules require the Department to review several key issues and propose additional changes within three years. These include increasing the allowable percolation rate in soils from 30 to 60 minutes per inch, expanding the use of soil analysis and pollutant loading determinations in system siting and design, the use of shared and alternative systems, the effectiveness of the rules in protecting critical resources and upgrading failing systems, and septage disposal. The new rules also establish an advisory committee to help the Department evaluate and implement the rules. See sections 15.040 and 15.041.

SUBPART B: Siting of Systems

This Subpart describes requirements for siting new systems. The new rules standardize practices for deep observation hole and percolation tests, and methods for determining the high groundwater elevation. Identification of water resources and soil types is also required. An approved soil evaluator (as described above) must be on the site at the time of the deep observation hole test, and certify to the Board of Health and the system designer that the observations were made properly. See sections 15.100 through 15.109.

SUBPART C: Design and Construction of Systems

The longest portion of the regulations, this Subpart contains rules for designing and building on-site systems, including specifications for each of the separate components of a system. Readers interested in these issues should use the table of contents as a guide to the relevant sections. Alternative technologies and shared systems are also addressed in this Subpart. Among the most significant issues are the following:

Systems over 2,000 gpd. The new rules require use of a recirculating sand filter, or an equivalent alternative technology, for systems over 2,000 gpd that will be located in nitrogen sensitive areas. Performance standards for recirculating sand filters are provided in section 15.202(4). DEP would have 60 days to review design plans once approved by the Board of Health; the plans would be deemed approved if DEP did not act in that time. See section 15.202.

System design flows. An expanded list of facility types, with appropriate design flow figures, is provided. To reduce disputes over the number of bedrooms in a residence, half the total number of rooms are considered bedrooms, but the applicant may design for a smaller number if a deed restriction is placed (see also the definition of bedroom in section 15.002). Flows for elementary schools are reduced (see also the school provision in section 15.416). See section 15.203.

Setback distances. Increased setbacks are required for surface water supply reservoirs (400 feet from leaching area) and their tributaries (200 feet). A new setback of 100 feet from certified vernal pools is required unless the system is hydraulically downgradient of the vernal pool, in which case 50 feet is the setback. Setbacks for some types of drains have been reduced or eliminated. The setback from slopes has been simplified to 15 feet, or 10 feet if a proper retaining wall is provided. See section 15.211. In addition, new septic tanks are prohibited, and new leaching systems restricted, in high-velocity flooding zones designated by the Federal Emergency Management Agency. See section 15.213.

Percolation rate. As in the 1978 Code, 30 minutes per inch is the maximum allowable percolation rate (see section 15.245). However, percolation rates

between 30 and 60 minutes per inch may be allowed for upgrade of systems. Review of the percolation rate is required within three years (see section 15.041), and the Department may allow up to 20 new systems per year to be constructed in 30 to 60 minute rate soils to assist in this evaluation (see section 15.417).

Nitrogen loading. The new rules establish nitrogen loading limits for new systems to be served by both on-site systems and private wells, and for systems located in nitrogen sensitive areas (zones of contribution of public drinking water supply wells). Designation of any other nitrogen sensitive areas would occur through the surface water quality standards process. The rules would essentially require an acre of land for construction of a new four-bedroom house; a larger house or a smaller lot may be allowed if a higher level of treatment is provided. In addition, the nitrogen loading limit may be satisfied by averaging across the full size of a project, or on a regional or community basis with a resource protection plan. See sections 15.214 through 15.217.

Soil classes. The proposed rules calculate loading rates based on the capacity of various soil types to absorb pollutants and effluent flow. Four classes of soils are identified, with loading rate factors identified for each, considering percolation rate as well. For some soils, these values will allow smaller leaching areas than the 1978 Code; in others, larger areas will be required. See sections 15.242 through 15.244.

Alternative technologies. The new rules establish a comprehensive system for review and approval of alternative technologies, based on the level of information available about the proposed technology. Data from other states with comparable conditions may serve as a basis for approval. Recirculating sand filters are approved for general use. Humus/composting toilets, already approved wherever a conventional system could be used, are also approved for upgrades, with use of existing leaching systems under some conditions. Further, the Department is required by the effective date (March 31, 1995) to grant approval for general use to at least 2 additional alternative systems with costs comparable to conventional systems. The Department is required to publish annually a list of approved alternatives and those undergoing review. See sections 15.280 through 15.289 and section 15.004(1).

Shared systems. The new rules allow more than one homeowner to use a common leaching area or system. The regulations outline allowable legal mechanisms and requirements for multiple ownership; Appendix 4 provides a sample form. Except for condominiums, which are treated as single owners, new construction using shared systems is limited to the volume of sewage that could have been permitted for separate systems. See sections 15.290 through 15.293.

SUBPART D: Inspection and Maintenance

This Subpart contains inspection and maintenance requirements for all systems, both those already constructed and those that will be built under the new rules. Among the most significant provisions are:

Inspection at time of transfer. Inspections of septic systems are required within 9 months prior to the transfer of property, unless weather conditions preclude such inspection in which case the inspection may be completed as soon as weather permits but no longer than 6 months after the transfer provided the seller notifies the buyer, or when there is a change in use or increase in use for which a building permit is required (see sections 15.301 and 15.302). Inspections must be conducted by approved system inspectors, who have passed an examination given by the Department. Professional engineers, sanitarians, or health officers may take the exam either with or without first taking a

training course; board of health members or agents, home inspectors, licensed septage haulers or installers, or others experienced in the field must take a training course prior to the exam. See sections 15.301 and 15.340.

Definition of failed systems. The new rules contain specific definitions of systems failing to protect public health and the environment which must be upgraded. These include obvious hydraulic failures (breakout or backup); systems located within Zone I of public water supply wells, within 100 feet of public water supply reservoirs or their tributaries, or within 50 feet of surface water bodies; or systems found to be a specific health or environmental threat. See section 15.303. These systems must be upgraded within one year of discovery of the problem. The upgrade standard is maximum feasible compliance with the new rules (see Subpart E below); the Board of Health may require an earlier upgrade if there is an imminent health hazard, or may allow a longer time, under an enforceable agreement, if a longer time is needed to achieve an environmentally superior solution. See section 15.305.

Large systems. Existing systems over 10,000 gpd must be inspected within two years. Because large systems historically have high rates of failure, the new rules classify as significant threats systems of 10,000 gpd or more that are located within zones of contribution of public water supply wells, within 400 feet of water supply reservoirs, or within 200 feet of their tributaries. These systems must be replaced by treatment plants within five years of discovery, unless the owner demonstrates that the water quality standards are being met at the property boundary and in the receiving water. The Department may allow a longer time, under an enforceable agreement, if needed to achieve an environmentally superior solution. See section 15.304.

Pumping. The new rules establish a performance standard for when pumping septic tanks is required, but also recommend pumping at least once every three years, and at least once every year for homes with garbage grinders. See section 15.351.

SUBPART E: Upgrade Approvals and Variances

This Subpart describes the ways and circumstances under which full compliance with the technical requirements of the other sections may be varied. Among the major issues addressed are:

Local upgrade approvals/"maximum feasible compliance." The Board of Health may allow upgrade or construction in "maximum feasible compliance" when full compliance with the new code is not feasible in two kinds of cases: upgrades of existing systems that are not in compliance, or new construction of three-bedroom units on existing lots that were buildable under the 1978 Code (more fully described in the transition rules in Subpart A, above). Increased flows are not allowed under a local upgrade approval. The "maximum feasible compliance" approach allows for departure from the requirements of the new rules to the least extent necessary to construct a system within the lot. Where the failure is due solely to failure of a particular component, upgrade of that component to the new rules is allowed. Among the other adjustments that may be allowed are reduction of setbacks from property lines or buildings, use of 30 to 60 minute percolation rates (for upgrades only), reductions of 25% or less in the required size of the leaching area, and reductions in setbacks from water resource areas. There are minimum standards that must be satisfied by such approvals: the system must have all three system components, with at least a 1000 gallon tank and at least 75% of the required leaching area; there must be a four foot separation between the bottom of the leaching area and the high groundwater elevation; and the system must be at least 100 feet from surface water supplies and their tributaries, 50 feet from private wells, and outside the protective area around public

wells established by water supply regulations (typically 400 feet). Boards of Health which have members or agents who are approved soil evaluators may allow a three foot minimum separation between the bottom of a leaching field and high groundwater elevation, only for upgrading existing systems and only where all other setbacks from water resources are met.

If the upgrade cannot be completed in compliance with these requirements, a variance or approval to use a tight tank must be sought. See sections 15.402 through 15.405.

Variances. As in the 1978 Code, variances from the rules may be granted when an equal degree of environmental protection is provided, and it would be manifestly unjust to enforce the rule as written. Under the new rules, DEP review of variances would not be required where the Board of Health approves variances from property line or building setbacks. Reductions of the new surface water setbacks, to 200 feet from reservoirs or 100 feet of their tributaries, also would not require DEP review under some circumstances (see section 15.412). All other variances would continue to require DEP review. For new construction, but not for upgrade or rebuilding, an applicant showing "manifest injustice" would have to show that substantially all use of the property would be lost (see section 15.410). For a variance to allow increased flow to an existing system, the applicant would have to show that the new system with the increased flow is environmentally superior to the existing situation (see section 15.414).

SUBPART E: Transportation and Disposal of Septage

This Subpart regulates the removal, transportation, and disposal of septage. The regulations generally attempt only to clarify existing requirements in this area, and to encourage regional solutions to septage management.

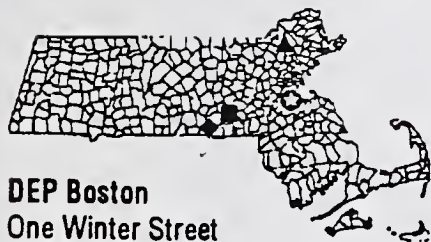
APPENDIX:

Appendix 1: This Appendix provides a model legal document to be used in establishing shared disposal systems.

TSSUMM.2

Department of Environmental Protection

Addresses



DEP Boston
One Winter Street
Boston, MA 02108
Telephone: 617-292-5500
Fax: 617-556-1049

William X. Wall Experiment Station [▲] **Office of Watershed Management** [■]
37 Shattuck Street
Lawrence, MA 01843
Fax: 508-688-0352
Division of Environmental Analysis
Telephone: 508-682-5237
Air Quality Surveillance
Telephone: 508-975-1138

Millbury Training Center [◆]
Route 20
Millbury, MA 01527
Telephone: 508-756-7281
Fax: 508-755-9253
Residuals Sludge Management
Telephone: 508-752-8648
WWT Operator Certification
Telephone: 508-756-2214



DEP Western Region
436 Dwight Street
Suite 402
Springfield, MA 01103
Telephone: 413-784-1100
Fax: 413-784-1149

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Agawam
Alford
Amherst
Ashfield
Becket
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DEP Central Region
75 Grove Street
Worcester, MA 01605
Telephone: 508-792-7650
Fax: 508-792-7621

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DEP Southeast Region
20 Riverside Drive
Lakeville, MA 02347
Telephone: 508-946-2700
Fax: 508-947-6557

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DEP Northeast Region
10 Commerce Way
Woburn, MA 01801
Telephone: 617-932-7600
Fax: 617-932-7615

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